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NEWS 16	OCT 19	BEILSTEIN updated with new compounds
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NEWS 19	NOV 30	ICSD reloaded with enhancements
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NEWS 21	DEC 14	BEILSTEIN pricing structure to change
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=> s transesterification
L1       21104 TRANSESTERIFICATION

=> s enzyme
L2      838658 ENZYME

=> s l1 and l2
L3        1788 L1 AND L2

=> s carboxylic(l) acid
        257031 CARBOXYLIC
       4507320 ACID
L4      173109 CARBOXYLIC(L) ACID

=> s l3 and l4
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L5 29 L3 AND L4

=> d l5 1-29 bib ABS

L5 ANSWER 1 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2007:384892 CAPLUS
DN 146:374899
TI Immobilization of enzymes by adsorption on porous carrier with subsequent crosslinking in the presence of a polyfunctional amine for use in organic synthesis
IN Mazeaud, Isabelle; Poulsen, Poul Boerge Rosenius; Christensen, Morten Wuertz; Brask, Jesper
PA Novozymes A/S, Den.
SO PCT Int. Appl., 32pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2007036235	A1	20070405	WO 2006-DK542	20061002
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	US 2007087418	A1	20070419	US 2006-541615	20061002
PRAI	DK 2005-1368	A	20050930		
	US 2005-724862P	P	20051007		

AB The present invention relates to the immobilization of enzymes by adsorbing enzymes, a polyfunctional amine and a crosslinking agent onto a particulate porous carrier in a mixer apparatus or in a fluid bed apparatus The function of the polyfunctional amine is to provide a network of amine-groups available for covalent crosslinking with the crosslinking agent and the enzymes amine-groups. In particular, immobilization of lipase B on a silica-based carrier by impregnation and subsequent crosslinking by glutaraldehyde in the presence of polyethylene imine is described. The immobilized enzyme of the invention is useful for modification of organic compds. such as esterification, epoxidn., hydrolysis or ring opening.
RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2006:952561 CAPLUS
DN 145:316951
TI Antiicing and deicing fluids comprising industrial streams of hydroxycarboxylic acid salts and/or esters
IN Sapienza, Richard; Johnson, Axel; Ricks, William
PA USA
SO U.S. Pat. Appl. Publ., 10pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2006202156	A1	20060914	US 2005-48946	20050202
	US 2006180786	A1	20060817	US 2005-249105	20051012
	CA 2601759	A1	20070802	CA 2006-2601759	20060130
	WO 2007086864	A2	20070802	WO 2006-US3082	20060130
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	EP 1851283	A2	20071107	EP 2006-849679	20060130
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU				
	US 2007176139	A1	20070802	US 2007-700377	20070131
PRAI	US 2005-48946	A3	20050202		
	WO 2006-US3082	W	20060130		

AB A deicing and/or antiicing composition comprises (a) a stream comprising soluble salts and/or esters of lactic acid, glycolic acid, citric acid, gluconic acid, and/or succinic acid produced by fermentation of sugars and/or starches, and fermentation yielding cornsteep water or cheese whey, the salts and/or esters being formed by neutralization with sodium hydroxide and/or potassium hydroxide, or esterification/transesterification, (b) streams comprising biodegradable, soluble organic acid salts and/or esters comprising or produced from monomers, intermediates and/or polymers contained in waste streams derived from polymerization production of polylactates, polysuccinates, PTT, polycaprolactone, lignin-based biodegradable polymers, soy and other protein-based polymers, polymers based on synthetic genes, and biodegradable polymers from soy beans, (c) streams comprising polyhydroxy compds. from corn syrup conversion and fermentation process streams obtained during production of diols by fermentation and/or enzyme catalyzed reactions, or (d) mixts. of two or more of (a), (b) and (c), and (e) optional water. The deicing and antiicing compns. utilize biodegradable/renewable sources, are environmentally benign, and can be applied to walkways, highways, bridges, parking facilities, aircraft, airport runways, ship decks, weather exposed industrial equipment and construction sites, surface of coal, ore, sand, gravel particles, golf course greens, and preharvest vegetables and fruits.

L5 ANSWER 3 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2006:818102 CAPLUS
DN 145:242875
TI Enzymatic enantioselective ester or amide hydrolysis or synthesis with engineered fungal lipolytic enzymes
IN Svendsen, Allan; Vind, Jesper; Brask, Jesper; De Maria, Leonardo
PA Novozymes A/S, Den.
SO PCT Int. Appl., 17pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2006084470	A2	20060817	WO 2006-DK76	20060210
	WO 2006084470	A3	20070301		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	EP 1851311	A2	20071107	EP 2006-706047	20060210
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
	IN 2007CN03488	A	20071116	IN 2007-CN3488	20070809
PRAI	EP 2005-388012	A	20050210		
	WO 2006-DK76	W	20060210		

AB The present invention relates to an enzymic method of hydrolyzing or synthesizing a chiral or prochiral carboxylic acid ester or amide. It also relates to variant enzymes and to a method of producing a variant enzyme for use therein. The inventors have found that the enantioselectivity of fungal lipolytic enzymes can be altered by substituting a suitably selected amino acid residue. The residue to be substituted is selected from its location in the 3D structure of the enzyme and an ester substrate (or a substrate analog). A residue in the lid may be selected if it is located close to the acid part or close to the alc. part of an ester substrate. A residue outside the lid region may be selected if it is located close to the active site or close to the substrate. The variants used in the invention may be derived from a parent polypeptide which has a high degree of homol. to Thermomyces lanuginosus lipase and/or Rhizomucor miehei lipase. The enantioselectivity was tested for variants of T. lanuginosus lipase and F. oxysporum lipase/phospholipase. Immobilized enzymes were used to catalyze the transesterification of vinyl propionate with the secondary alc. 2-butanol in hexane. The results indicate that for variants with substitutions only in the alc. part, the selectivity was inverted (from S to R). For variants with substitutions only or mainly in the acid part; the S-selectivity was retained and increased.

L5 ANSWER 4 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2006:298724 CAPLUS
DN 144:329907
TI Enzymic manufacture of fatty acid esters in high water media using immobilized lipid acyltransferase
IN De Kreij, Arno; Madrid, Susan Mampust; Mikkelsen, Jorn Dalgaard; Soe, Jorn Borch
PA Neth.
SO U.S. Pat. Appl. Publ., 126 pp., Cont.-in-part of Appl. No. PCT/IB04/000575.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2006068462	A1	20060330	US 2005-182480	20050715
	WO 2004064987	A2	20040805	WO 2004-IB575	20040115
	WO 2004064987	A3	20060323		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	EP 1748074	A2	20070131	EP 2006-14355	20040115
	EP 1748074	A3	20070523		
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PT, RO, SE, SI, SK, TR, AL, LT, LV, MK				
	EP 1762622	A2	20070314	EP 2006-14353	20040115
	EP 1762622	A3	20070523		
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PT, RO, SE, SI, SK, TR, AL, LT, LV, MK				
	CN 1989818	A	20070704	CN 2006-10110731	20040115
	AU 2006203065	A1	20060810	AU 2006-203065	20060718
	AU 2006203106	A1	20060810	AU 2006-203106	20060720
	JP 2007049995	A	20070301	JP 2006-241342	20060906
	JP 2007061100	A	20070315	JP 2006-241900	20060906
PRAI	GB 2003-1117	A	20030117		
	GB 2003-1118	A	20030117		
	GB 2003-1119	A	20030117		
	GB 2003-1120	A	20030117		
	GB 2003-1121	A	20030117		
	GB 2003-1122	A	20030117		
	US 2003-489441P	P	20030723		
	GB 2003-30016	A	20031224		
	WO 2004-IB575	A2	20040115		
	AU 2004-206113	A3	20040115		
	CN 2004-80002380	A3	20040115		
	EP 2004-702393	A3	20040115		
	JP 2006-500330	A3	20040115		

OS MARPAT 144:329907
AB A method of using immobilized lipid acyltransferases in the preparation of fatty acid esters for use in foods or cosmetics, especially as emulsifiers, by transesterification or alcoholysis in environments containing 5-98% water is described. The acyl donor may be a lipid selected from

phospholipids, lysophospholipids, triglycerides, diglycerides, glycolipids, or lysoglycolipids. The acyl donor may be a carbohydrate, a protein, or a hydroxy acid. The gene for the glycerophospholipid-cholesterol acyltransferase of Aeromonas salmonicida salmonicida was cloned and expressed in Escherichia coli using the prior art pET12a vector. The enzyme manufactured in Escherichia coli and in Bacillus subtilis transesterified fatty acids from lecithins to cholesterol. The enzyme functioned as a lipase and as a transferase.

L5 ANSWER 5 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:1077371 CAPLUS
DN 144:389150
TI Novel enzymatic route for kinetic resolution of (±)1,4-benzodioxan-2-carboxylic acid
AU Kasture, Sangita M.; Varma, Rita; Kalkote, Uttam R.; Nene, Sanjay; Kulkarni, Bhaskar D.
CS Chemical Engineering Division, Division of Organic Chemical Technology, National Chemical Laboratory, Pune, 411008, India
SO Biochemical Engineering Journal (2005), 27(1), 66-71
CODEN: BEJOFV; ISSN: 1369-703X
PB Elsevier B.V.
DT Journal
LA English
OS CASREACT 144:389150
AB Et 1,4-benzodioxan-2-carboxylate is used as an intermediate compound for the production of drug doxazosin mesylate. The title compound was kinetically resolved to get S-enantiomer of Et 1,4-benzodioxan 2-carboxylate in a simple lipase catalyzed transesterification reaction. Et acetate was used as reaction medium as well as acyl donor. The influence of the enzyme source and time of reaction on the enantioselectivity of product were studied. Lipase from Candida antartica-B (Novozyme A/S) catalyzed transesterification reaction with good enantio selectivity towards S-enantiomer. The high enantiomeric ratio, E = 160, provided S-2 an acceptable chemical yield (50%) and enantiomeric excess (>95%).
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:582572 CAPLUS
DN 143:76937
TI Enzymic resolution of 4-oxochroman-2-carboxylic acids and derivatives with lipase
IN Kakiue, Takashi
PA Sanwa Kagaku Kenkyusho Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 12 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005176758	A	20050707	JP 2003-424517	20031222
PRAI	JP 2003-424517		20031222		

OS MARPAT 143:76937
AB Optically active 4-oxochroman-2-carboxylic acids and derivs. are manufactured with lipase from racemic 4-oxochroman-2-carboxylic acids and derivs. by enzymic esterification, enzymic transesterification, and enzymic hydrolysis. The lipase is selected from enzyme of animal liver or pancreas, Aspergillus, etc. Manufacture of (R)-6-fluoro-4-oxochroman-2-carboxylic acid Me ester and (S)-6-fluoro-4-oxochroman-2-carboxylic acid with lipase AS was shown.

L5 ANSWER 7 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:633568 CAPLUS
DN 141:173330
TI Enzymic manufacture of fatty acid esters in high water media using immobilized lipid acyltransferase
IN De Kreij, Arno; Madrid, Susan Mampusta; Mikkelsen, Jorn Dalgaard; Soe, Jorn Borch
PA Danisco A/S, Den.
SO PCT Int. Appl., 157 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 6

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004064987	A2	20040805	WO 2004-IB575	20040115
	WO 2004064987	A3	20060323		
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	RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	AU 2004205539	A2	20040805	AU 2004-205539	20040115
	AU 2004205539	A1	20040805		
	CA 2512734	A1	20040805	CA 2004-2512734	20040115
	EP 1599278	A2	20051130	EP 2004-702392	20040115
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	BR 2004006602	A	20060301	BR 2004-6602	20040115
	CN 1759183	A	20060412	CN 2004-80002380	20040115
	CN 1802435	A	20060712	CN 2004-80006382	20040115
	JP 2006524037	T	20061026	JP 2006-500327	20040115
	EP 1748074	A2	20070131	EP 2006-14355	20040115
	EP 1748074	A3	20070523		
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PT, RO, SE, SI, SK, TR, AL, LT, LV, MK				
	EP 1762622	A2	20070314	EP 2006-14353	20040115
	EP 1762622	A3	20070523		
	R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LI, LU, MC, NL, PT, RO, SE, SI, SK, TR, AL, LT, LV, MK				
	CN 1989818	A	20070704	CN 2006-10110731	20040115
	US 2006068462	A1	20060330	US 2005-182480	20050715
	MX 2005PA07653	A	20050930	MX 2005-PA7653	20050718
	AU 2006203065	A1	20060810	AU 2006-203065	20060718
	AU 2006203106	A1	20060810	AU 2006-203106	20060720
	JP 2007049995	A	20070301	JP 2006-241342	20060906
	JP 2007061100	A	20070315	JP 2006-241900	20060906
PRAI	GB 2003-1117	A	20030117		
	GB 2003-1118	A	20030117		
	GB 2003-1119	A	20030117		
	GB 2003-1120	A	20030117		
	GB 2003-1121	A	20030117		
	GB 2003-1122	A	20030117		
	US 2003-489441P	P	20030723		
	GB 2003-30016	A	20031224		

	AU 2004-206113	A3	20040115
	CN 2004-80002380	A3	20040115
	EP 2004-702393	A3	20040115
	JP 2006-500330	A3	20040115
	WO 2004-IB575	A	20040115

OS MARPAT 141:173330

AB A method of using immobilized lipid acyltransferases in the preparation of fatty acid esters for use in foods or cosmetics, especially as emulsifiers, by transesterification or alcoholysis in environments containing 5-98% water is described. The acyl donor may be a lipid selected from phospholipids, lysophospholipids, triglycerides, diglycerides, glycolipids, or lysoglycolipids. The acyl donor may be a carbohydrate, a protein, or a hydroxy acid. The gene for the glycerophospholipid-cholesterol acyltransferase of Aeromonas salmonicida salmonicida was cloned and expressed in Escherichia coli using the prior art pET12a vector. The enzyme manufactured in Escherichia coli and in Bacillus subtilis transesterified fatty acids from lecithins to cholesterol. The enzyme functioned as a lipase and as a transferase.

L5 ANSWER 8 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:333874 CAPLUS
DN 140:355984
TI Process for the preparation of phenolic carboxylic acid derivatives by enzymatic catalysis
IN Oehrlein, Reinhold; Baisch, Gabriele; Schoening, Kai-Uwe; Hartwig, Jemima; Mayer, Sandra Franziska
PA Ciba Specialty Chemicals Holding Inc., Switz.
SO PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004033699	A1	20040422	WO 2003-EP10967	20031002
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	CA 2499813	A1	20040422	CA 2003-2499813	20031002
	AU 2003293598	A1	20040504	AU 2003-293598	20031002
	EP 1549752	A1	20050706	EP 2003-788934	20031002
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	JP 2006501831	T	20060119	JP 2004-542420	20031002
	US 2006110807	A1	20060525	US 2005-529802	20050330
PRAI	EP 2002-405869	A	20021010		
	WO 2003-EP10967	W	20031002		

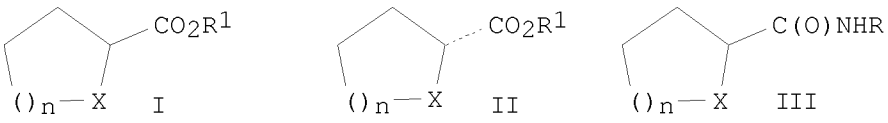
OS CASREACT 140:355984; MARPAT 140:355984
AB The present invention relates to an improved process for the preparation of phenolic carboxylic acid derivs. catalyzed by biocatalytic esterification, transesterification or amidation of a corresponding lower alkyl ester. Biocatalysis is performed in the presence of suitable enzymes, e.g. hydrolases, especially esterases, amidases, lipases and proteases.
RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:729051 CAPLUS
DN 140:2333
TI Enzyme-catalyzed regioselective transesterification of peracylated sophorolipids
AU Carr, Jason A.; Bisht, Kirpal S.
CS Department of Chemistry, University of South Florida, Tampa, FL, 33620, USA
SO Tetrahedron (2003), 59(39), 7713-7724
CODEN: TETRAB; ISSN: 0040-4020
PB Elsevier Science B.V.
DT Journal
LA English
OS CASREACT 140:2333
AB Regioselective transesterifications and hydrolysis of peracylated sophorolipid (SL) derivs. catalyzed by lipases was investigated. This study is the first evaluation of the lipase-catalyzed reactions on the non-lactonic SL derivs. Four lipases, namely from porcine pancreas (PPL, Type II), Candida rugosa (AYS, TypeVII), Pseudomonas cepacia (PS-30), and Candida antarctica (Novozym 435, carrier fixed lipase fraction B) were used in anhydrous THF or in phosphate buffer (pH=7.4, 0.2 M). It was confirmed from the detailed spectral anal. of the products that transesterification failed to furnish any free hydroxyls on the sophorose ring. Instead, transesterification took place on the Me ester located at the carboxylic end of the 17-hydroxyoctadecenoic acid chain attached to the C-1' position of the sophorose ring. It is proposed that in absence of the lactonic structural motif, the binding of the peracylated non-lactonic SLs in the lipase binding pocket takes place such that the carboxyl group of the octadecenoic acid, not the sophorose sugar, is preferentially accessible to the active site.
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2003:133259 CAPLUS
DN 138:187631
TI Method for preparing optically active α-substituted heterocyclic carboxylic acid esters by enzymic kinetic resolution using aminolysis/transesterification
IN Uhm, Ki-Nam
PA Genofocus Co., Ltd., S. Korea
SO PCT Int. Appl., 37 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2003014106	A1	20030220	WO 2002-KR1488	20020806
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	KR 2003012964	A	20030214	KR 2001-47232	20010806
	AU 2002324007	A1	20030224	AU 2002-324007	20020806
PRAI	KR 2001-47232	A	20010806		
	WO 2002-KR1488	W	20020806		

OS MARPAT 138:187631
GI



AB The present invention relates to a method for preparing an optically active compound from a racemic α-substituted heterocyclic carboxylic acid ester. More particularly, it relates to a method for preparing an optically active α-substituted heterocyclic carboxylic acid ester (shown as I) and/or an optically active α-substituted heterocyclic carboxylic acid amide (shown as II), which comprises the steps of: (a) dissolving in an organic solvent a racemic compound of α-substituted heterocyclic carboxylic acid ester (shown as III); (b) adding an enzyme (lipase from Candida Antarctica is the best for tetrahydro-2-furoic acid), and R-NH2 to a solution containing the racemic compound; and (c) isolating the optically active compds. I and II from the reaction mixture Other related methods are also claimed. For I-III: R1 is (un)substituted alkyl, alkenyl, alkynyl, cycloalkyl, aryl, arylalkyl, heteroarylalkyl or alkylaryl; R is H or (un)substituted alkyl, alkenyl, alkynyl, cycloalkyl, aryl, arylalkyl, heteroarylalkyl or alkylaryl; X is O, S or N; and n = 1-5. For example, 21 g of tetrahydro-2-furoic acid Bu ester and 0.9 g of Candida antarctica lipase were added into 30 mL of reaction solvent (2 M NH3 in

EtOH), the mixture was reacted at 20° with stirring, and NH3 gas was injected at regular time intervals. Chiral gas chromatog. showed 99.5% ee for the Bu and Et esters and 77.5% ee for the amide after 11 h.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 11 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:906527 CAPLUS
DN 137:383891
TI Lipase catalyzed esterification, transesterification, and hydrolysis of arylthiols and aryl-thioesters
IN Skulason, Hjalti
PA Molecular Electronics Corporation, USA
SO PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002095044	A2	20021128	WO 2002-US15994	20020521
	WO 2002095044	A3	20030410		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	AU 2002316148	A1	20021203	AU 2002-316148	20020521
PRAI	US 2001-292750P	P	20010521		
	WO 2002-US15994	W	20020521		

OS CASREACT 137:383891; MARPAT 137:383891
AB A method for catalyzing reactions of aryl-thiols and aryl-thioesters with water, alc. or carboxylic acid using an enzyme or microorganism leading to the hydrolysis, esterification or trans-esterification or these compds., which is particularly useful as a step in anchoring a self-assembled monolayer to a metal substrate.

L5 ANSWER 12 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:869099 CAPLUS
DN 137:351616
TI Process for the production of phospholipids
IN Basheer, Sobhi; Zuabi, Rassan; Shulman, Avidor; Mar-Chaim, Neta
PA Enzymotec Ltd., Israel
SO PCT Int. Appl., 50 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002090560	A2	20021114	WO 2002-IL344	20020502
	WO 2002090560	A3	20040219		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	IL 142952	A	20051218	IL 2001-142952	20010503
	AU 2002258129	A1	20021118	AU 2002-258129	20020502
	EP 1412511	A2	20040428	EP 2002-728001	20020502
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2004532857	T	20041028	JP 2002-587619	20020502
	US 2004171126	A1	20040902	US 2003-700320	20031103
	US 7034168	B2	20060425		
PRAI	IL 2001-142952	A	20010503		
	WO 2002-IL344	W	20020502		

OS CASREACT 137:351616
AB The present invention provides a new enzymic process for preparing 1,2-diacylated phospholipids comprising the use of an enzyme preparation possessing phospholipase activity towards acylation at the sn-1 and sn-2 sites in a microaq. reaction system. More particularly, the 1,2-diacyl-phospholipids produced according to the esterification/ transesterification process of the present invention are obtainable in high yield and purity and carry identical desired carboxylic acid, preferably fatty acid, acyl groups at the sn-1 and sn-2 positions. The process involves esterification/transesterification (acylation) of a glycerophospholipid, preferably glycerophosphoryl choline (GPC) with a desired carboxylic acid, preferably fatty acid , or their derivs. in the presence of the above mentioned appropriate enzyme preparation The process of the invention further relates to a process for the production of 1-acyl-2-lyso-glycerophospholipid, preferably 2-lyso-PC by reacting glycerophospholipid, preferably glycerophosphoryl choline (GPC) with a desired carboxylic acid, preferably fatty acid, or their derivs. in the presence of a sn-1 specific phospholipase (PLA1 or PLA1,2) and a solvent, in a microaq. medium.

L5 ANSWER 13 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:682868 CAPLUS
DN 137:215901
TI Enzymic manufacture of carboxylic acid esters having vinyl ether groups
IN Yamaguchi, Hiroko; Maki, Keiji
PA Nippon Shokubai Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002253286	A	20020910	JP 2001-59576	20010305
PRAI JP 2001-59576		20010305		

OS MARPAT 137:215901
AB Reaction of R1CH:CHOR2OH (R1 = H, organic residue; R2 = organic residue) with R3CO2R4 (R3 = H, organic residue; R4 = organic residue) in the presence of enzymes gives R3CO2R2OCH:CHR1 (R1-R3 = same as above). Diethylene glycol monovinyl ether was transesterified with Me methacrylate in the presence of phenothiazine and Novozyme 435 (enzyme) at 70° under 730 mmHg for 16 h to give 2-(2-vinyloxyethoxy)ethyl methacrylate in 83 mol% yield and 100% selectivity.

L5 ANSWER 14 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:501899 CAPLUS
DN 137:262859
TI Enzyme-catalyzed preparation of novel fatty acid derivatives of pyridoxine with surfactant activity
AU Baldessari, Alicia; Mangone, Constanza P.
CS Departamento de Quimica Organica, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Buenos Aires, 1428, Argent.
SO Biocatalysis and Biotransformation (2002), 20(4), 275-279
CODEN: BOBOEQ; ISSN: 1024-2422
PB Taylor & Francis Ltd.
DT Journal
LA English
OS CASREACT 137:262859
AB A series of novel fatty acid derivs. of pyridoxine, one of the three members of the vitamin B6 group, was prepared These products were obtained using an enzymic approach. Several lipases catalyzed esterification and transesterification reactions of pyridoxine with carboxylic acid or alkyl carboxylates showed a remarkable regioselective behavior; only monoacyl derivs. were obtained. The surfactant activity, composition and clean enzymic methodol. applied in the preparation of these products make them useful as ingredients in cosmetic and pharmaceutical formulations or food additives.
RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 15 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2002:314169 CAPLUS
DN 137:109566
TI Synthesis of novel polyurethane polyesters using the enzyme Candida antarctica lipase B without isocyanates
AU McCabe, Richard W.; Taylor, Alan
CS Centre for Materials Science, University of Central Lancashire, Preston, PR1 2HE, UK
SO Chemical Communications (Cambridge, United Kingdom) (2002), (9), 934-935
CODEN: CHCOFS; ISSN: 1359-7345
PB Royal Society of Chemistry
DT Journal
LA English
AB A novel enzymic route was used to synthesize standard and unusual polyester polyurethanes without employing the usual highly toxic isocyanate intermediates. The transesterification of biscarbamate diols with carboxylic acid and diol in the presence of Lipase yields novel polyester polyurethanes. The diol e.g. butanediol, can be used as the diluent in the polymerization reaction.
RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 16 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2001:747983 CAPLUS
DN 135:287855
TI Enzymatic modification of sterols using sterol-specific lipase
IN Basheer, Sobhi; Plat, Dorit
PA Enzymotec Ltd., Israel
SO PCT Int. Appl., 48 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001075083	A1	20011011	WO 2001-IL305	20010403
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2405330	A1	20011011	CA 2001-2405330	20010403
	EP 1268754	A1	20030102	EP 2001-919737	20010403
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2003529366	T	20031007	JP 2001-572957	20010403
	NZ 521726	A	20041029	NZ 2001-521726	20010403
	IN 2002KN01226	A	20040417	IN 2002-KN1226	20020927
	US 2004105931	A1	20040603	US 2003-240546	20030605
PRAI	IL 2000-135466	A	20000404		
	WO 2001-IL305	W	20010403		

AB The invention relates to a process for the selective alcoholysis of a free sterol, by contacting said free sterol with a fat-based product, optionally with the addition of carboxylic fatty acid(s) and/or ester derivative(s) thereof that are not derived from said fat-based product, in the presence of an immobilized lipase complex which may optionally be surfactant-coated, which complex possesses a high level of sterol-specific alcoholytic and/or esterification activity and minimal acidolytic and transesterification activities. The fat-based product is a nutritional product or food, particularly butterfat, or a cosmetic or cosmetic-related product. The process may be used for preparing substantially cholesterol-free fat-based products, particularly products containing butterfat, by selectively esterifying any free cholesterol contained therein by the immobilized, preferably surfactant-coated lipase. The invention also relates to a process for the in situ enrichment of a fat-based product with esterified phytosterol ester(s). In this process, the esterification of the phytosterol is simultaneously accompanied by esterification of any free cholesterol present in said fat-based product.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

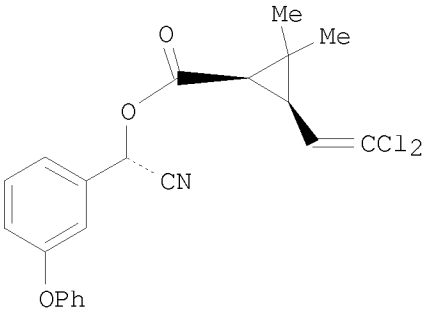
L5 ANSWER 17 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:608444 CAPLUS
DN 133:206876
TI Method of preparation of optically pure carboxylic acid esters
IN Bornscheuer, Uwe; Henke, Erik; Yang, Hong
PA Basf A.-G., Germany
SO Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 1031629	A2	20000830	EP 2000-102505	20000205
	EP 1031629	A3	20050302		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 19908074	A1	20000831	DE 1999-19908074	19990225
	US 6365398	B1	20020402	US 2000-505709	20000217
	JP 2000245498	A	20000912	JP 2000-50019	20000225
	CN 1266904	A	20000920	CN 2000-102398	20000225
PRAI	DE 1999-19908074	A	19990225		

OS MARPAT 133:206876
AB A method is presented for the enzymic preparation of enantiomerically pure carboxylic acid esters, carboxylic acids, and alcs., from a racemic carboxylic acid ester and a racemic alc. via transesterification by a lipase or similar enzyme. Thus, (RS)-2-phenylbutyric acid vinyl ester and (RS)-1-phenylethanol were converted to (R)-2-phenylbutyric acid (R)-1-phenethylester by lipase CAL-B in toluene with a yield of 40% and an enantiomeric excess of > 98%. Since the enzyme did not catalyze the reaction with the (S) stereoisomers, (S)-(-)-2-phenylbutyric acid vinyl ester and (S)-(-)-1-phenylethanol were produced with enantiomeric excesses of 58% and 94% resp. In a similar manner, (R)-2-phenylpropionic acid (R)-1-phenethyl ester was prepared along with (S)-(+)-2-phenylpropionic acid vinyl ester and (S)-(-)-1-phenylethanol from the lipase catalyzed transesterification of (RS)-2-phenylpropionic acid vinyl ester and (RS)-1-phenylethanol.

L5 ANSWER 18 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2000:380199 CAPLUS
DN 133:208249
TI Enantioselective Ester Hydrolysis Catalyzed by Imprinted Polymers. 2
AU Sellergren, Borje; Karmalkar, Rohini N.; Shea, Kenneth J.
CS Department of Inorganic Chemistry and Analytical Chemistry, Johannes Gutenberg University, Mainz, D-55099, Germany
SO Journal of Organic Chemistry (2000), 65(13), 4009-4027
CODEN: JOCEAH; ISSN: 0022-3263
PB American Chemical Society
DT Journal
LA English
AB Highly cross-linked network polymers prepared by mol. imprinting catalyzed enantioselectively the hydrolysis of N-tert-butoxycarbonyl phenylalanine-p-nitrophenyl ester (BOCPheONP). The templates were designed to allow incorporation of the key catalytic elements, found in the proteolytic enzyme chymotrypsin, into the polymer active sites. Three model systems were evaluated. These were constructed from a chiral phosphonate analog of phenylalanine (series A, C) or L-phenylalanine (series B) attached by a labile ester linkage to an imidazole-containing vinyl monomer. Free radical copolymn. of the template with methacrylic acid (MAA) and ethylene glycol dimethacrylate (EDMA) gave a highly cross-linked network polymer. The templates could be liberated from the polymers by hydrolysis, giving catalytically active sites envisaged to contain an enantioselective binding site, a site complementary to a transition state like structure (series A, C), and a hydroxyl, imidazole, and carboxylic acid group at hydrogen bond distance. As predicted, the enantiomer of BOCPheONP complementary to the configuration of the template was preferentially hydrolyzed with D-selectivity for the series A polymers (kD/kL = 1.9) and L-selectivity for the series B polymers (kL/kD = 1.2). The maximum rate enhancement, when compared with a control polymer, prepared using a benzoyl-substituted imidazole monomer as template, was 2.5, and comparing with the imidazole monomer in solution, a maximum rate enhancement of 10 was observed The catalytic activity was higher for polymers subjected to the nucleophilic treatment. This was explained by a higher site d. and flexibility of the polymer matrix caused by this treatment. In a comparison of template rebinding to polymers imprinted with a template containing either a carboxylate (planar ground state structure) or a phosphonate (tetrahedral transition state like structure) functionality, it was observed that imprinted polymers are able to discriminate between a transition state like and a ground state structure for transesterification. However the influence of transition state stabilization on the observed rate enhancements remains obscure. Only at acidic pH's was catalysis observed, whereas at basic pH's the polymers inhibit the reaction. At a later stage, the catalytic activity of the polymers for nonactivated D- and L-phenylalanine Et esters was investigated. A rate enhancement of up to 3 was observed when compared to the blank. Most important, however, the polymers imprinted with a D template preferentially hydrolyzed the D-Et ester and exhibited saturation kinetics.
RE.CNT 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 19 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1998:240856 CAPLUS
DN 128:321759
TI Enzyme-catalyzed reactions. 34. Synthesis of (1R,cis,αS)-cypermethrine via lipase catalyzed kinetic resolution of racemic m-phenoxybenzaldehyde cyanohydrin acetate
AU Roos, Jurgen; Stelzer, Uwe; Effenberger, Franz
CS Institut fur Organische Chemie, Universitat Stuttgart, Stuttgart, D-70569, Germany
SO Tetrahedron: Asymmetry (1998), 9(6), 1043-1049
CODEN: TASYE3; ISSN: 0957-4166
PB Elsevier Science Ltd.
DT Journal
LA English
GI



I

AB A tech. scale preparation of optically active (1R,cis,αS)-cypermethrine I from racemic m-phenoxybenzaldehyde cyanohydrin acetate (RS)-II and (1R,cis)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropane-carboxylic acid chloride (1R,cis)-III is described. Key steps of the new procedure are a lipase catalyzed enantioselective transesterification of (RS)-II with n-butanol and direct acylation of the mixture of (R)-II and (S)-cyanohydrin with (1R,cis)-III to give enantiomerically pure (1R,cis,αS)-I. The unchanged (R)-II is removed from (1R,cis,αS)-I by distillation, and is racemized with triethylamine to give (RS)-II which is returned to the process the total yield of (1R,cis,αS)-I referred to (RS)-II is 80%.
RE.CNT 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 20 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1997:454879 CAPLUS
DN 127:172943
TI Functionalized dendritic polybenzylethers as acid/base buffers for biocatalysis in nonpolar solvents
AU Dolman, Mark; Halling, Peter J.; Moore, Barry D.
CS Departments of Pure and Applied Chemistry & Bioscience and Biotechnology, University of Strathclyde, Glasgow, G1 1XL, UK
SO Biotechnology and Bioengineering (1997), 55(2), 278-282
CODEN: BIBIAU; ISSN: 0006-3592
PB Wiley
DT Journal
LA English
AB A carboxylic acid functionalized dendritic polybenzyl ether has been synthesized and used with its sodium salt to generate a novel acid/base buffer soluble in nonpolar organic solvents. The effect of different ratios of the two buffer forms on the catalytic activity of subtilisin Carlsberg and chymotrypsin was investigated in toluene. It was found that reproducible transesterification rates were obtained at each molar ratio consistent with a buffering effect. As the molar ratio of the sodium salt to acid was increased there was a corresponding increase in the catalytic activity of both enzymes although their profiles were not identical. This is consistent with a requirement for deprotonation of a residue at active site of the enzyme as observed in aqueous solution The ability to alter and precisely control the ionization state of biocatalysts in nonpolar solvents may find useful applications for both fundamental studies and in syntheses where reactants or products have acid/base properties.

L5 ANSWER 21 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1996:763227 CAPLUS
DN 126:118167
TI Chemoenzymic synthesis of both enantiomers of cispentacin
AU Theil, Fritz; Ballschuh, Sibylle
CS Institut fur Angewandte Chemie Berlin-Aldershof, Berlin, D-12484, Germany
SO Tetrahedron: Asymmetry (1996), 7(12), 3565-3572
CODEN: TASYE3; ISSN: 0957-4166
PB Elsevier
DT Journal
LA English
OS CASREACT 126:118167
AB Both enantiomers of cispentacin, (1R,2S)- and (1S,2R)-2-aminocyclopentane-1-carboxylic acid, were synthesized. The synthetic strategy involved enzyme-catalyzed kinetic resolution of (1RS,2SR)-2-(tert-butyldimethylsilyloxymethyl)cyclopentanol by transesterification with vinyl acetate using lipase from Pseudomonas cepacia.
RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 22 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1996:569769 CAPLUS
DN 125:300181
TI Candida rugosa lipase: enantioselectivity enhancements in organic solvents
AU Persichetti, Rose A.; Lalonde, Jim J.; Govardhan, Chandrika P.; Khalaf, Nazer K.; Margolin, Alexey L.
CS Altus Biologics, Cambridge, MA, 02139, USA
SO Tetrahedron Letters (1996), 37(36), 6507-6510
CODEN: TELEAY; ISSN: 0040-4039
PB Elsevier
DT Journal
LA English
OS CASREACT 125:300181
AB Chiral resolns. of carboxylic acids i.e. (R,S)-ibuprofen, (R,S)-2-hydroxyhexanoic acid, and (R,S)-2-(4-chlorophenoxy)propionic acid, and alc. (±)-menthol were carried out through esterification or transesterification in organic solvents using cross-linked enzyme crystals (CLEC) of Candida rugosa lipase (CRL). Comparison of these results with those of crude CRL reveal significant differences. As was seen in resolution through hydrolysis, a marked improvement in enantioselectivity is realized with the CLEC. Addnl., the stability afforded the enzyme in CLEC form leads to a higher activity in organic solvent.

L5 ANSWER 23 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1996:315666 CAPLUS
DN 124:341058
TI Enzymic esterification and resolution of long-chain racemic acids and alcohols
IN Trani, Michael; Ergan, Francoise; Lortie, Robert
PA Can.
SO Can. Pat. Appl., 15 pp.
CODEN: CPXXEB
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CA 2132411	A1	19960320	CA 1994-2132411	19940919
	US 5561057	A	19961001	US 1994-309434	19940920
PRAI	CA 1994-2132411		19940919		

AB The invention disclosed relates to a process for the enzymic esterification and transesterification of racemic carboxylic acids and alcs. in which the reaction products predominantly include the ester of the more reactive acid or alc. enantiomer and the unconverted less reactive acid or alc. enantiomer, wherein the reactions are effected, preferably in a solventless medium, and the byproduct water or short-chain alc. is removed as it is formed.

L5 ANSWER 24 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1996:307846 CAPLUS
DN 125:30219
TI Preparation of tetrapyrrole-amino acid covalent complexes
AU Fiedor, Leszek; Rosenbach-Belkin, Varda; Sai, Maruthi; Scherz, Avigdor
CS Biochem. Dep., Reizmann Inst. Sci., Rehovot, 76100, Israel
SO Plant Physiology and Biochemistry (Paris) (1996), 34(3), 393-398
CODEN: PPBIEX; ISSN: 0981-9428
PB Gauthier-Villars
DT Journal
LA English
AB The presented synthetic approach towards chemical modifications of chlorophylls (Chls) provides a perspective to construct model systems, where tetrapyrrole-amino acid and tetrapyrrole-peptide interactions could be studied in covalent model compds. The approach relies on the fact that in Chls the 172 propionic acid side chain does not participate in the tetrapyrrole π-electron system. It makes use of a plant enzyme chlorophyllase (EC 3.1.1.14), which in vivo and in vitro catalyzes reactions at this side function. The transesterification and hydrolysis enzymic reactions are useful on a preparative scale. In the transesterification reaction, a desired amino acid residue possessing primary hydroxyl group can be directly attached to the propionic acid side chain of Chl. This method allows replacement of the phytyl moiety in Chls with serine. The other reaction, enzymic hydrolysis of Chls, yields chlorophyllides and opens a convenient route for further modifications. If sufficiently mild synthetic methods are used, such as catalysis with 4-dimethylaminopyridine or activation with N-hydroxysuccinimide, an amino acid or peptide residue can be covalently bound to chlorophyllides' carboxylic group, leaving the essential electronic structure of Chl intact. The activation with N-hydroxysuccinimide allows for the coupling even in aqueous media. Following these two methods, the chlorophyllides were linked e.g. to tyrosine or MSH (α-4,7-MSH). The spectral features of these model compds. indicate a formation of a ground state charge transfer complex between the tetrapyrrole and amino acid moieties. Thanks to the high stereospecificity of chlorophyllase, the described model compds. are the nonprime diastereoisomers. They have chemical features of both Chl and amino acid and thus can be used as modules to build more complicated model systems.

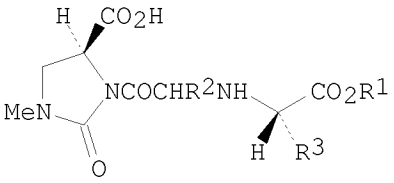
L5 ANSWER 25 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1995:73719 CAPLUS
DN 122:30902
TI Structure-activity relationships in the esterase-catalyzed hydrolysis and transesterification of esters and lactones
AU Barton, Patrick; Laws, Andrew P.; Page, Michael I.
CS Dep. Chem. Biol. Sci., Univ. Huddersfield, Queensgate/Huddersfield, HD1 3DH, UK
SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic Chemistry (1972-1999) (1994), (9), 2021-9
CODEN: JCPKBH; ISSN: 0300-9580
DT Journal
LA English
AB The Bronsted exponents for the alkaline hydrolysis of alkyl esters are 1.3 and 0.4 for substitution in the acyl and alc. portions, resp., which is indicative of a transition state which resembles the anionic tetrahedral intermediate with a localized neg. charge. By contrast, the rate of the pig liver esterase (PLE)-catalyzed hydrolysis shows little dependence upon the electron-withdrawing power of substituents. The values of Kcat are independent of the pKa of the leaving group alc. suggesting rate-limiting deacylation. There is a small steric effect of α-substitution in both the alc. and carboxylic acid residues for the enzyme-catalyzed reactions but the enzymes rate enhancement factor remains high for most esters. There is no substantial ee observed for the hydrolysis of racemic esters although the kinetic data can be used for determining the regioselective hydrolysis of diesters. Unsubstituted lactones are poor substrates for PLE but derivs. with hydrophobic substituents show kcat/Km values similar to those for acyclic esters. Dihydrocoumarin undergoes transesterification catalyzed by PLE, kcat increases with increasing alc. concentration indicative of rate-limiting deacylation. There is enantioselectivity in the PLE-catalyzed hydrolysis of some racemic lactones but little or none in the transesterification of racemic alcs. with dihydrocoumarin.

L5 ANSWER 26 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1991:431565 CAPLUS
DN 115:31565
TI Process and lipase enzyme catalysts for glyceride transesterification
IN Macrae, Alasdair Robin; Padley, Frederick Bolton; Chandler, Ian Christopher
PA Unilever N. V., Neth.; Unilever PLC
SO Eur. Pat. Appl., 5 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 417823	A2	19910320	EP 1990-202239	19900821
	EP 417823	A3	19920617		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, NL, SE				
	GB 2236537	A	19910410	GB 1989-20715	19890913
	AU 9062369	A	19910321	AU 1990-62369	19900911
	AU 628644	B2	19920917		
	CA 2025124	A1	19910314	CA 1990-2025124	19900912
	JP 03109495	A	19910509	JP 1990-243685	19900913
	ZA 9007304	A	19920527	ZA 1990-7304	19900913
PRAI	GB 1989-20715	A	19890913		

AB In the title process, cheap oils (i.e., glycerides containing short-chain carboxylic acid residues) are converted into fats and glyceridic oils having prized phys. and/or therapeutic properties (e.g., by the introduction of eicosapentaenoic or docosahexaenoic acid residues, no data) by contacting the cheap oil with a supported lipase enzyme transesterification catalyst and a long-chain fatty acid or alkyl ester. This process affords facile catalyst removal and may be conducted on a continuous or batch basis. Thus, a composition comprising glyceridic oil (containing butyric acid residues esterified in the number 1 and 3 positions and a palmitic acid residue esterified in the number 2 position) 45, glyceridic oil (containing palmitic acid esterified in the number 2 and 3 positions and butyric acid esterified in the number 1 position) 43, glycerol tripalmitate 7, and other triglycerides 5% was mixed with 3 times excess Et oleate, and the mixture was treated batchwise with a 1,3-specific lipase (from Mucor miehei) supported on Duolite for 2 h at 60° and 20 mmHg, and the crude reaction product was worked up by filtration to remove the catalyst and then subjected to mol. distillation at 125° and 0.05 mmHg, producing a triglyceride reaction product containing 60% 1,3-oleic acid-esterified glycerin with the number 2 position being esterified with palmitic acid. The reaction product did not contain any butyric acid moieties.

L5 ANSWER 27 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1989:58041 CAPLUS
DN 110:58041
TI Studies on angiotensin converting enzyme inhibitors. 4. Synthesis and angiotensin converting enzyme inhibitory activities of 3-acyl-1-alkyl-2-oxoimidazolidine-4-carboxylic acid derivatives
AU Hayashi, Kimiaki; Nunami, Kenichi; Kato, Jyoji; Yoneda, Naoto; Kubo, Masami; Ochiai, Takashi; Ishida, Ryuichi
CS Res. Lab. Appl. Biochem., Tanabe Seiyaku Co., Ltd., Osaka, 532, Japan
SO Journal of Medicinal Chemistry (1989), 32(2), 289-97
CODEN: JMCMAR; ISSN: 0022-2623
DT Journal
LA English
OS CASREACT 110:58041
GI



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AB (4S)-1-Alkyl-3-[[N-(carboxyalkyl)amino]acyl]-2-oxoimidazolidine-4-carboxylic acid derivs., e.g. I [R1 = H, R2 = (S)-Me, R3 = CH2CH2Ph] were prepared by two methods. Their angiotensin-converting enzyme (ACE) inhibitory activities and antihypertensive effects were evaluated, and the structure-activity relationships were discussed. The dicarboxylic acids possessing the S,S,S-configuration showed potent in vitro ACE inhibitory activities with IC50 values of (1.1 + 10-8-1.5 + 10-9 M. The most potent compound in this series, monoester I·HCl [R1 = Et, R2 = (S)-Me, R3 = CH2CH2Ph] had an ID50 value of 0.24 mg/kg, po for inhibition of angiotensin I-induced pressor response in normotensive rats and produced a dose-dependent decrease in systolic blood pressure of spontaneously hypertensive rats (SHRs) at doses of 1-10 mg/kg, po.

L5 ANSWER 28 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1987:497126 CAPLUS
DN 107:97126
TI Dipeptide derivatives containing sulfoamide group as antihypertensives having both diuretic and angiotensin converting enzyme inhibitory activity
IN Andrews, David R.; Gaeta, Federico C. A.
PA Schering Corp., USA
SO U.S., 16 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4556655	A	19851203	US 1984-653186	19840924
	US 4634698	A	19870106	US 1985-721015	19850408
	WO 8601803	A1	19860327	WO 1985-US1778	19850919
	W: AU, DK, JP				
	RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
	AU 8549639	A	19860408	AU 1985-49639	19850919
	AU 581388	B2	19890216		
	EP 195817	A1	19861001	EP 1985-905015	19850919
	EP 195817	B1	19891018		
	R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
	JP 62500241	T	19870129	JP 1985-504453	19850919
	AT 47399	T	19891115	AT 1985-905015	19850919
	ZA 8507358	A	19860528	ZA 1985-7358	19850924
	IL 76484	A	19900209	IL 1985-76484	19850924
	CA 1278150	C	19901218	CA 1985-491447	19850924
	US 4826816	A	19890502	US 1985-784000	19851004
	DK 8602416	A	19860523	DK 1986-2416	19860523
	US 4885293	A	19891205	US 1986-892003	19860730
	US 5015641	A	19910514	US 1989-349369	19890509
PRAI	US 1984-653186	A2	19840924		
	US 1985-721015	A2	19850408		
	EP 1985-905015	A	19850919		
	WO 1985-US1778	A	19850919		
	US 1985-784000	A2	19851004		
	US 1986-892003	A3	19860730		

OS CASREACT 107:97126; MARPAT 107:97126
AB The title compds. useful in treatment of hypertension and glaucoma (no data) were prepared 1-[2-(S)-[[1-(S)-Carboxy-2-[4-[[[6-chloro-3,4-dihydro-3-(2-phenylethyl)-2H-1,2,4-benzothiadiazin-7-yl]sulfonylamino]methyl]phenylmethoxy]ethyl]amino]-1-oxopropyl]-(2S,3α,7aα)-octahydro-1H-indole-2-carboxylic acid S,S-dioxide prepared in 8 steps from N-tert-butoxycarbonyl-L-serine, was used in formulation of a capsule, tablet, and injectable solution

L5 ANSWER 29 OF 29 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1980:472306 CAPLUS
DN 93:72306
OREF 93:11781a,11784a
TI Phosphoryl amino acid derivatives and composition for treating hypertension containing them
IN Thorsett, Eugene Deloy; Patchett, Arthur Allan; Harris, Elbert Everett; Maycock, Alan Leslie
PA Merck and Co., Inc., USA
SO Eur. Pat. Appl., 31 pp.
CODEN: EPXXDW
DT Patent
LA English
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI EP 9183	A1	19800402	EP 1979-103324	19790907
EP 9183	B1	19811021		
R: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
US 4316896	A	19820223	US 1978-940412	19780907
DK 7903724	A	19800308	DK 1979-3724	19790906
JP 55038382	A	19800317	JP 1979-114340	19790907
JP 63054719	B	19881028		
PRAI US 1978-940412	A	19780907		

AB (RO)(R1O)P(O)X(CH2)nCHR2CONR3CHR4CO2H [R = alkyl, aralkyl, aryl; R2 = H, alkyl, aralkyl, aryl; R2 = alkyl, phenylalkyl, hydroxyphenylalkyl, aminoalkyl, guanidinoalkyl, imidazoylalkyl, indolylalkyl, mercaptoalkyl, alkylmercaptoalkyl; R3R4 = C2-4 alkylene or C2-3 alkylene containing 1 S atom; X = O, S, NR5 (R5 = alkyl); n = 0, 1] and their pharmaceutically-acceptable salts were prepared as antihypertensives due to their ability to inhibit angiotensin-converting enzyme. Thus, H-Ala-Pro-OCH2Ph was treated with (PhCH2O)2P(O)Cl in CH2Cl2 to give (PhCH2O2)2P(O)-Ala-Pro-OCH2Ph, which was saponified by 1M NaOH for 5 h at room temperature to give (PhCH2O2)2P(O)-Ala-Pro-OH (I), which was purified by column chromatog. on Sephadex LH-20 with elution with aqueous NH4HCO3 to give I ammonium salt.

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FULL ESTIMATED COST                                    93.83      94.04

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